IN THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the above-referenced application:

1 - 4. (Canceled)

5. (Currently amended) ~~A method as defined in claim 4~~ A method of inspecting a semiconductor wafer for defects using captured image analysis comprising:

positioning the wafer with an edge thereof relative to an image capturing device;

positioning the image capturing device at a desired angle relative to the edge of the wafer;

rotating the wafer;

scanning the edge of the rotating wafer with the image capturing device;

recording an image of a desired portion of the edge of the scanned wafer from the image capturing device into a database;

instructing a computer to analyze the recorded images of the scanned wafer;

identifying any defects in the analyzed recorded images; and

upon identifying any defects, recording defect information related to each defect;

wherein:

the scanning step further comprises:

scanning the edge of the wafer from a region interior of a top of the edge to a region exterior of a bottom of the edge.

6. (Previously presented) A method of inspecting a semiconductor wafer for defects using captured image analysis comprising:

after a first process step:

positioning the wafer with an edge thereof relative to an image capturing device;

rotating the wafer;

scanning the edge of the rotating wafer with the image capturing device;

recording an image of the scanned wafer from the image capturing device into a database;

instructing a computer to analyze the recorded images of the scanned wafer;

identifying any defects in the analyzed recorded images; and

upon identifying any defects, recording defect information related to each defect;

after a second process step, repeating the aforementioned steps;

comparing the defect information recorded after the first process step to the defect information recorded after the second process step; and

identifying any new defects as added defects due to the second process step.

7. (Previously presented) A method of inspecting a semiconductor wafer for defects using captured image analysis comprising:

after a first process step:

positioning the wafer with an edge thereof relative to an image capturing device;

rotating the wafer;

scanning the edge of the rotating wafer with the image capturing device;

recording an image of the scanned wafer from the image capturing device into a database;

instructing a computer to analyze the recorded images of the scanned wafer,

identifying any defects in the analyzed recorded images; and

upon identifying any defects, recording defect information related to each defect;

after a second process step, repeating the aforementioned steps;

comparing the defect information recorded after the first process step to the defect information recorded after the second process step;

determining whether any defects identified after the first process step have been reduced after the second process step; and

identifying any such reduced defects as repaired defects.

8 - 10. (Canceled)

11. (Currently amended) ~~A method as defined in claim 10 further comprising:~~ A method of inspecting an edge of a semiconductor wafer for defects during fabrication of integrated circuit components on the semiconductor wafer within a fabrication system that includes a plurality of fabrication stations arranged in a processing order and within which a variety of process steps are performed on a plurality of wafers, comprising:

providing a plurality of inspection stations within the fabrication system corresponding to selected ones of the fabrication stations, each inspection station being located in a subsequent processing order to a corresponding one of the selected fabrication stations;

processing a wafer in a first fabrication station;

automatically inspecting an edge of the wafer in a first inspection station;

automatically recording a first set of defects in the edge of the wafer; processing the wafer in a second fabrication station;

automatically inspecting the edge of the wafer in a second inspection station;

automatically recording a second set of defects in the edge of the wafer; and

determining a difference between the first and second sets of defects.

12. (Original) A method as defined in claim 11 further comprising:

identifying process-induced edge defects from the determined difference between the first and second sets of defects.

13. (Canceled)

14. (Canceled)

15. (Currently amended) ~~A method as defined in claim 13 further comprising:~~ A method of inspecting an edge of semiconductor wafers for defects during fabrication of integrated circuit components on the semiconductor wafers within a fabrication system that includes a plurality of fabrication stations arranged in a processing order and within which a variety of process steps are performed on a plurality of wafers, comprising:

providing a plurality of inspection stations within the fabrication system corresponding to selected ones of the fabrication stations, each inspection station being located in a subsequent processing order to a corresponding one of the selected fabrication stations;

processing the wafers in the fabrication stations;

inspecting the edge of the wafers in the inspection stations;

upon inspecting each wafer, recording an image of the edge of the wafer;

correlating each recorded image with the wafer from which it was taken and the process step after which it was taken;

selecting two recorded images from among a plurality of the recorded images by specifying the wafer from which both images were taken and the two process steps after which each selected image was taken;

determining any defects that were present on the edge of the specified wafer at times that the two selected recorded images were taken of the edge of the specified wafer by analyzing the two selected recorded images; and

determining whether any defects were added to the edge of the specified wafer between the times that the two selected recorded images were taken by comparing the determined defects from the analyzing of the two selected recorded images.

16. (Canceled)

17. (Currently amended) ~~A wafer edge defect inspection system as defined in claim 16,~~ A wafer edge defect inspection system comprising:

an image capturing device next to which a wafer can be positioned, the image capturing device being oriented to view at least a portion of an edge of the wafer, the image capturing device automatically generating an image of the edge of the wafer;

a database connected to the image capturing device to receive the generated image of the edge of the wafer, the database automatically storing the received image for subsequent analysis; and

a computer connected to the database to retrieve the stored image upon instruction from a user to perform image analysis to locate any defects in the edge of the wafer;

_____wherein the image capturing device is a first image capturing device, the image generated thereby is a first image and the wafer edge defect inspection system is incorporated into a fabrication system having a plurality of fabrication stations for processing the wafer and forming integrated circuit components thereon, further comprising:

a second image capturing device next to which the wafer can be positioned, the second image capturing device being oriented to view at least the portion of the edge of the wafer, the second image capturing device automatically generating a second image of the edge of the wafer and being connected to the database to supply the second image to the database;

and wherein:

the database automatically stores the second image for subsequent analysis by the computer;

the first image capturing device is incorporated into the fabrication system to receive the wafer after a first fabrication station performs a first process step on the wafer and the first image capturing device generates the first image of the edge of the wafer after the first process step;

the second image capturing device is incorporated into the fabrication system to receive the wafer after a second fabrication station performs a second process step on the-wafer and the second image capturing device generates the second image of the edge of the wafer after the second process step; and

the computer retrieves the stored first and second images upon instruction from the user to compare and analyze the first and second images together.

18. (Original) A wafer edge defect inspection system as defined in claim 17, wherein:

the computer compares and analyzes the first and second images together upon instruction from the user to determine whether any defects have been added to the edge of the wafer between times that the first and second images thereof are generated.

19. (Original) A wafer edge defect inspection system as defined in claim 17, wherein:

the computer compares and analyzes the first and second images together upon instruction from the user to determine whether any defects have been repaired on the edge of the wafer between times that the first and second images thereof are generated.

20. (Currently amended) A wafer edge defect inspection system as defined in claim [[16]]17 incorporated into a fabrication system having a plurality of fabrication stations within which the wafer is subjected to process steps to form integrated circuit components thereon, and wherein:

at least a portion of the located defects are caused by at least one of the process steps to which the wafer is subjected before the image capturing device automatically generates the image of the edge of the wafer.